

**U.S. FISH AND WILDLIFE SERVICE  
SPOTLIGHT SPECIES ACTION PLAN**

**Common name:** Wyoming toad  
**Scientific name:** *Bufo baxteri*  
**Lead Region:** Mountain-Prairie Region (Region 6), Denver, Colorado  
**Lead Field Office:** Wyoming Ecological Services Field Office  
5353 Yellowstone Rd., Room 308A  
Cheyenne, WY 82009  
307-772-2358

**Species Information:**

**Status:** Endangered

**Recovery Priority**

**Number:** 3

**Recovery Plan:** Wyoming Toad Recovery Plan (1991);  
Recovery plan is currently being revised.

**5-year Review:** Initiated October 6, 2008. Anticipated completion in 2010.

**Other:** *Endangered and Threatened Wildlife and Plants; Determination That Bufo Hemiphrys Baxteri (Wyoming Toad) is an Endangered Species* (49 FR 1992, January 17, 1984)

Wyoming Toad Species Survival Plan (SSP). 1996. Association of Zoos and Aquariums (AZA).

Population and Habitat Viability Assessment for the Wyoming Toad (*Bufo baxteri*). Final Workshop Report. 2001. Apple Valley, MN: IUCN/SSC Conservation Breeding Specialist Group.

**Threats:** The primary threat to the species is the amphibian chytrid fungus (*Batrachochytrium dendrobatidis*). Chytrid fungus has been implicated in declines and extinctions of amphibian species worldwide. Water diversion, infectious disease, predation, pesticide use, grazing and irrigation practices, weather events, climate change, and lack of genetic diversity may also affect species survival and abundance.

**Target:** Species status improved. The Wyoming toad is a critically endangered species. An effective captive propagation program through the SSP, AZA, and Service captive breeding facilities is successfully maintaining the species in captivity and providing animals for reintroductions. Despite extensive reintroduction efforts, only limited survival and reproduction is currently observed outside of captivity. Effective captive breeding programs and improving our success at reintroducing the species back into nature will be required to improve the species' status.

**Measure:** The Wyoming Toad Recovery Program in the next 5-year period will:

- Continue implementation of the Species Survival plan to ensure survival and maintain genetic diversity of captive population
- Continue the captive breeding program for reintroduction of animals into the wild.
- For one site develop an adaptive management plan for reintroductions.
- Increase the number of reintroduction sites.

**Actions:** The Wyoming Toad Recovery Team (WTRT) is currently developing a Draft Revised Recovery Plan that is anticipated for public review in 2010. This revision will describe in detail the specific actions and tasks needed to achieve the recovery goals for the species. We are highlighting needed actions that we anticipate will be included in the revised draft. The broad actions described below address all currently known threats to the Wyoming toad.

**Action 1: Maintain organizational structure and mechanisms to accomplish recovery tasks.**

This includes maintaining the WTRT and the Wyoming Toad SSP. Recovery efforts cannot continue without an organizational structure supporting their implementation. The WTRT, the AZA, and Service staff will implement this action.

**Action 2: Maintain and enhance the captive breeding program.**

Captive breeding of the Wyoming toad is the most important measure preventing the animal's near-term extinction and is critical to long-term reestablishment of wild populations through reintroduction efforts. The WTRT, the SPP participants, and Service staff will implement this action.

**Action 3: Maintain and enhance non-captive populations of Wyoming toads.**

Non-captive populations of Wyoming toads are the basis of recovery and must therefore be the ultimate focus of recovery efforts. Specific actions within this effort are minimizing threats to the Wyoming toad and its habitat at non-captive sites, developing and implementing a long-term management plan for maintaining non-captive populations, and selecting, establishing and maintaining reintroduction sites throughout the historic range of the Wyoming toad. The WTRT and Service staff will implement this action.

**Action 4: Develop and implement a scientifically defensible monitoring program.**

Monitoring populations of Wyoming toads is the only way to ascertain when recovery goals are met, so monitoring is vital to eventual delisting. Specific actions pertaining to monitoring toad populations include identifying information needs, developing and implementing a monitoring methodology, insuring that monitoring efforts adapt to

changing population conditions and programmatic needs and insuring that monitoring is continued in the long-term. The WTRT and Service staff will implement this action.

**Action 5: Conduct research and adaptively manage the recovery program.**

Identify specific data needed to inform management decisions (e.g., target levels of vegetation or water levels) and how that data will be collected as part of research and/or monitoring programs. Design an adaptive, research-based strategy to refine recovery goals and actions (e.g., release techniques, husbandry). Identify research needs to improve our understanding and management of infectious disease in non-captive Wyoming toads (e.g., resistance, effects of land management and environmental variables). The WTRT, University of Wyoming, AZA, and Service staff will implement this action.

**Action 6: Conduct information and education programs.**

Long-term support for endangered species work, and Wyoming toad efforts in particular, depend on broad-based interest in such work, which is fostered by public outreach. Therefore, the WTRT should develop and implement a public outreach plan, which may include a school program, and landowner programs. The WTRT, the SPP participants, and Service staff will implement this action.

**Role of other agencies:**

**Wyoming Game and Fish Department (WGFD)**

The WGFD has long been active in Wyoming toad recovery programs. Through 2006, the Wyoming toad captive breeding facility was at the WGFD's Sybille Wildlife Research and Conservation Education Center. WGFD actively participates in the WTRT.

**The Association of Zoos and Aquariums**

The AZA is a key partner in recovery of the toad. In December of 1996, the AZA approved an SSP that formalized a cooperative program of the AZA, USFWS, and WGFD. This program was designed to restore the Wyoming toad to a secure status in the wild. Wyoming toads are now housed at the following AZA affiliated zoos: Detroit Zoo (MI), Henry Doorly Zoo (NE), National Mississippi River Museum and Aquarium (IA), Cheyenne Mountain Zoo (CO), Como Park Zoo and Conservatory (MN), and Toledo Zoo (OH). The AZA has also been involved in several research projects on the Wyoming toad.

## University of Wyoming

The University of Wyoming and the USFWS's Ecological Services Wyoming Field Office have entered into an agreement to provide for active support for the breeding of the Wyoming toad at the Red Buttes Captive Breeding Facility, and associated research, teaching and on-the-ground recovery efforts at the breeding facility and at field research sites.

## Wyoming Natural Diversity Database

Wyoming Natural Diversity Database (WYNDD) is a service and research unit of the University of Wyoming that has signed a cooperative agreement with the Laramie Rivers Conservation District to conduct project planning and monitoring of Wyoming toads at two SHA sites and one research site in Albany County, Wyoming. WYNDD also serves as liaison with the LRCD and third parties such as land owners, land managers, management agencies and the WTRT.

## Laramie Rivers Conservation District

Since 1998, the Service has restored, created or enhanced wetland, upland, riparian, riverine, and associated habitats in cooperation with the Laramie Rivers Conservation District (LRCD) and their cooperating farmers and ranchers. The LRCD has particular expertise and is uniquely established in Albany County to expedite cooperative ventures in natural resource management through its local relationship with their network of cooperating agencies, tribes, organizations and individuals. In 2004, the Service executed an "umbrella" or programmatic Safe Harbor Agreement (SHA) with LRCD allowing landowners to sign-up voluntarily with LRCD to provide habitat and help conserve the endangered Wyoming Toad without restrictions placed on them under the Endangered Species Act of 1973.

## Bureau of Land Management, Wyoming State Office

The Bureau of Land Management's Wyoming State Office has funded and is in the process of conducting coordinated amphibian surveys for the Wyoming toad in historical habitats within the historic range of the toad.

## **Role of other ESA programs:**

Administrative tools to accommodate Wyoming toad reintroduction involve section 10(a)(1)(A) recovery permits and could in the future potentially include section 10(j) of ESA. These tools provide the flexibility to undertake reintroductions without some of the encumbrances normally associated with ESA. The use of Safe Harbor Agreements address landowner concerns over the potential for regulatory impacts from having a listed species on their property, and they currently facilitate the release of Wyoming toads onto private lands. Section 6 funding could also play a role for some partners. Section 7 consultation is undertaken at Wyoming toad reintroduction sites when an action with a

federal nexus may affect a listed species, although procedures vary based on regulatory mechanisms in place and land ownership.

#### **Role of other FWS programs:**

##### **Fisheries:**

Saratoga National Fish Hatchery: There are approximately 485 Wyoming Toads held in captivity at facilities throughout the U.S., 80 of which are held at Saratoga. Staff from Saratoga NFH actively participate in the WTRT and SPP. SNFH is an important component of the captive breeding program; they produce at least half of the toads released at Mortenson Lake and safe harbor sites.

Dexter National Fish Hatchery and Technology Center (DNFHTC): DNFHTC's staff and a graduate student from the University of New Mexico are currently conducting an evaluation of genetic diversity of Wyoming toad broodstock to inform captive propagation efforts. This study was funded through "Preventing Extinction" monies.

The Service's National Aquatic Health Coordinator is a member of the WTRT.

##### **Refuges:**

Mortenson Lake National Wildlife Refuge (NWR) supports the last known wild breeding population of the endangered Wyoming toad. Mortenson NWR was acquired by the Service specifically for the protection of the Wyoming toad. The Refuge encompasses 1,776 acres and is located southwest of Laramie, Wyoming. It is closed to the public because of the Wyoming toad's status. The Refuge is administered out of Arapaho NWR in Walden, CO. Over 37,000 captive bred Wyoming toads, mostly tadpoles and toadlets, were released at Mortenson Lake NWR from 1995 to 2008. Based on annual surveys, a very low number of adult toads survive after release. This demonstrates that, even though numbers are low, Wyoming toads are reproducing at Mortenson Lake NWR.

##### **Partners for Fish and Wildlife:**

Staff from the partner's program assist with the WTRT and work closely with the LRCD.

#### **Additional funding analysis:**

Funding is needed to implement conservation actions and is critical to the success of the recovery program. For the Service, our highest priorities for additional funding would be to:

- Fully fund the operational needs of the Wyoming toad Red Buttes captive breeding facility in Albany County, Wyoming.

- Fully fund the operational needs of the Wyoming toad program at the Saratoga National Fish Hatchery in Saratoga, Wyoming.
- Fully fund research needs and recovery actions identified by the WTRT.
- Hire a full-time Wyoming toad Recovery Coordinator.

*for* Scott Hicken  
Project Leader

9-30-2009  
Date